(HP), intravascular ultrasound (IVUS) and without anticoagulant therapy (AT). We compared the results in three groups of pts: group A: no IVUS, no HP, with subsequent AT (n = 434), group B: no IVUS, yes HP, without AT (n = 192) and group C: yes IVUS, yes HP, without AT (n = 588). The success rates were comparable in all groups. There was a clear change in indications for stenting in groups B and C compared to group A (elective stenting: A = 32%, B = 66%, C = 69%, p < 0.0001), in reference vessel size (A = 3.22 + 0.37 mm, B = 2.92 + 0.56 mm, C = 2.98 + 0.57 mm, p < 0.0001), and for presence of type B2 and C lesions (p < 0.001). The complications rate significantly decreased in group C (A = 3.6%, B = 4.1%, C = 1.2%, p < 0.001) and hospital stay decreased to 2 days. The restenosis rate increased in the group B and C (A = 20%, B = 34%, C = 32%, p < 0.001). The need for a repeat procedure increased as more complex lesions and smaller vessels were attempted: TLR was performed in 16% of patients in group A, in 18% of group B and in 22% of group C (p = 0.04). MACE occurred in 29% in group A, 27% in group B, and in 30% in group C.

Conclusions: The evolving technique of coronary stenting has enlarged the spectrum of indications and type of coronary vessels attempted and decreased the complication rates and hospital stay. However, additional improvements are needed to affect the long term outcome.

1215-100 Does the RCA Differ From the LAD After Coronary Stenting?

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Previous studies have suggested a higher revascularization (revasc) rate after percutaneous intervention of the left anterior descending (LAD). Others have questioned the benefit of stenting in the right coronary artery (RCA). To address these issues, we reviewed records of 1741 patients who underwent intracoronary stenting either to the RCA or to the left anterior descending (LAD) and compared the outcome of these patients. Baseline clinical characteristics were similar between the two groups. Lesions in the RCA were more commonly in the ostial location (11.1% vs 4.7% p = 0.001), more complex. In-hospital events including death, MI need for repeat revascularization (revasc) was the same.

Characteristics	RCA	LAD	P
Pre Reference (mm)	3.12 ± 0.54	2.78 ± 0.52	0.0001
Final MLD (mm)	3.01 ± 0.59	2.72 ± 0.51	0.0001
Final %DS	4 ± 7	4 ± 9	0.8567
Late (1 yr) Outcome			
Target Lesion Revasc	17.1%	12.1%	0.004

Predictors of subsequent TLR include: Final MLD (OR = 0.387, p = 0.0001), Diabetes (OR = 1.747, p = 0.0303), Ostial location (3.483, p = 0.0041), Lesion length (OR = 1.033, p = 0.047), LAD location (0.868).

We Conclude Target lesion revascularization after elective stent placement is driven by procedural and clinical factors and not the vessel location (LAD vs. RCA).

1215-101 Coronary Perforations: A Persistent Problem in Interventions

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Background: Coronary perforation (P) is a rare but potentially very dangerous complication of percutaneous coronary interventions (PCI). The objective of this study was to determine the incidence of P during various intervention procedures with a hypothesis that once the operators are past the device learning curve, the incidence of P should diminish.

Methods: A retrospective review of Interventional Registry data was performed forall PCI (8262 pts/13080 lesions) at Cleveland Clinic Foundation, donebetween 11/92–12/96. Of these, 78 pts (79 lesions) had angiographicevidence of P.

P/Total lesions

	1992	1993	1994	1995	1996
Balloon	0/374	2/2754	2/2933	3/3047	0/3437
Stent	0/18	2/154	4/168	5/766	16/1490
Rota	0/0	4/307	9/561	15/627	10/603
Others	1/52	2/291	3/319	1/63	0/19
Total	1/444	10/3506	18/3981	24/4503	26/5549
%	0.23	0.29	0.45	0.53	0.47

Results: MI was observed in (17/78) 22%, Tamponade in (11/78) 14%, CABG in (9/78) 11.5% and Death in (8/78) 10%. Use of Abciximab was not associated with an increased incidence of P (7/1426) 0.5%.

Conclusions: Even though most of operators were past "learning curve" for various devices, the incidence of P has not decreased and remains an important complication of PCI.

1215-102 Carotid Stenting and Endarterectomy: A Cost Comparison

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Background: Initial data on outcomes for carotid stenting (CS) in severe extracranial lesions suggests a low rate of neurologic complication, comparable to that of endarterectomy (CEA). Suggested advantages of CS include a shorter length of stay (LOS) and reduced costs.

Methods: We compared variable direct costs (VDC), from the procedure forward, for 12 months of CS and CEA. Nine surgeons performed 139 CEA and 2 cardiologists performed 36 CS at out facility.

Results: The mean total length of stay (LOS) was 1.79 ± 1.25 days (range, 0–4 days) and 2.93 ± 1.89 days (range, 1–15 days) for CS and CEA respectively. The mean ICU LOS was 0.42 ± 0.87 days (range, 0–4 days) and 1.20 ± 1.09 days (range, 0–12 days) for CS and CEA, respectively. Average total hospital VDC for CS was $3355 ± $697 (range, $2102–$5364), and $4964 (no range available) for CEA. Cath lab and OR VDC were similar (~$2700) but VDC associated with the increased LOS (total and ICU) in the CEA group accounted for the differences in the two groups.

Conclusion: Currently, CS appears to cost less and consume fewer institutional resources than CEA. Possible future improvements in CS equipment/technique and as well as in the post-operative care of the CEA patient may affect this relationship.

1215-103 In-Vivo Assessment of Balloon Expansion and Stent Recoil in Normal Porcine Coronary Arteries: On-line Measurement Using an Imaging Guidewire

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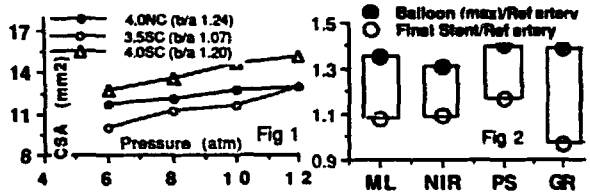
Background: Optimal expansion of endovascular stents lowers the incidence of acute and late events. Failure to obtain cross-section areas (CSA) that match reference CSA or nominal balloon size may be due to incomplete balloon expansion, and/or stent recoil.

Methods: 24 stents (6 Palmaz-Schatz [PS], 6 MultiLink [ML], 6 NIR and 6 Gianturco-Roubin II [GR]) were placed in normal porcine coronary arteries. To accurately quantify expanded balloon CSA, continuous IVUS imaging was performed using an 0.018" 35 mHz imaging core placed within the balloon during step-wise inflation (from 4–12 atm) with either a 3.5 mm semi-compliant (SC), 4.0 mm SC or a 4.0 mm non-compliant (NC) balloon, and repeated during deflation to measure stent recoil (deflated CSA/maximum CSA).

Results: Complete balloon expansion or over-expansion (mean max balloon/artery CSA = 1.4 ± 0.170 was observed in stents with all balloons (Fig. 1). Stent recoil was 15 ± 3% (PS) vs 16 ± 8% (ML) vs 17 ± 11% (NIR) vs 29 ± 7% (GR) p < 0.05) (Fig. 2)



Conclusions: 1) Recoil is a major problem and is greater in the "coil" stent. 3) Overcoming recoil requires 20% oversizing of balloons, using oversized NC balloons (at nominal pressure) or appropriately sized SC (at > nominal pressure) 4) The main effect of high pressure in NA is to obtain oversizing of SC balloons.

1215-104 Is the Response to High Pressure Adjunct PTCA Stent Design Specific? A Sequential Intravascular Ultrasound Study

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Previous studies have indicated that high pressure adunct PTCA is necessary to achieve optimal expansion of tubular-slotted stents and that minimum